GRADE 4– Unit 1 - Introduction to STEM / Robotics

Mission Statement
The primary goal of the Swedesboro-Woolwich School District is to prepare each student with the real life skills needed to compete in a highly competitive global economy. This will be achieved by providing a comprehensive curriculum, the integration of technology, and the professional services of a competent and dedicated faculty, administration, and support staff. Guiding this mission will be Federal mandates, including No Child Left Behind, the New Jersey Core Curriculum Content Standards, and local initiatives addressing the individual needs of our students as determined by the Board of Education. The diverse resources of the school district, which includes a caring PTO and active adult community, contribute to a quality school system. They serve an integral role in supporting positive learning experiences that motivate, challenge and inspire children to learn.

Unit/Module Overview
In unit 1, students will learn to: ● While practicing a growth mindset, the student will utilize a color coding language to program a robot and create a story.

Standards Covered in Current Unit/Module
Related Standards and Learning Goals
CS.3-5.8.2.5.ED.2 - Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models. **CS.3-5.8.1.5.AP.3 -** Create programs that include sequences, events, loops, and conditionals. **CS.3-5.8.1.5.AP.6 -** Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.

Unit/Module Weekly Learning Activities and Pacing Guide			
Topic & # Days	**NJ Standards**	**Critical Knowledge & Skills**	**Possible Resources & Activities**
Introduction to STEM (1)	• **CS.3-5.8.2.5.ED.2**	**Obj. We are learning to**: • demonstrate the difference between a growth or fixed mindset **Suggested Formative Assessment(s)**: • Growth and Fixed Mindset quiz	• Activity ○ Growth and Fixed Mindset Review ○ Class introduction • Video ○ Famous Failures - Never Give Up • Materials ○ Growth or Fixed Activity 1 ○ Kahoot!
Introduction to coding / Robotics (1)	• **CS.3-5.8.1.5.AP.3**	**Obj. We are learning to**: • utilize color codes to program a robot while differentiating between input and output. **Suggested Formative Assessment(s)**: • Robot Practice	• Activity ○ Programming a robot with color codes introduction • Video ○ How To: Use Your Ozobot Bit – Part 1 • Materials ○ Ozobot color-codes-tips.pdf
Coding Practice (Robot Bowling) (1)	• **CS.3-5.8.1.5.AP.3**	**Obj. We are learning to**: • utilize color codes to program a robot while differentiating between input and output. **Suggested Formative Assessment(s)**: • Ozobot Bowling.PNG	• Activity ○ Robot bowling activity • Video ○ Ozobot Bowling • Materials ○ ozobot-color-codes.pdf
More Advanced Coding Practice (Block Coding) (1)	• **CS.3-5.8.1.5.AP.6**	**Obj. We are learning to**: • utilize block coding to program a robot. **Suggested Formative Assessment(s)**: • https://games.ozoblockly.com/shapetracer-basic	• Activity ○ Programming a robot with block coding • Materials ○ https://ozoblockly.com/editor?lang=en&robot=evo&mode=2 ○ https://games.ozoblockly.com/ozotown-basic

Robot Stories (1)	• **CS.3-5.8.1.5.AP.3**	**Obj. We are learning to**: • create and sort a story that can be acted out by a robot. **Suggested Formative Assessment(s)**: • Ozobot Story	• Activity ○ Robot story Project ■ Create a draft story and storyboard • Materials ○ Ozobot Story Template ○ Paper ○ Markers ○ ruler
Utilizing Robots to tell a Story (5)	• **CS.3-5.8.1.5.AP.6**	**Obj. We are learning to**: • 1) create a physical medium for their robot to act out their story 2) program a robot to act out a story.fixed mindset **Suggested Summative Assessment(s)**: • Copy of Scale Tracking Sheet Gr 4 Unit 1	• Activity ○ Create final stories and boards for robot story • Video ○ Classroom Close-up Show 10 (2018-19) • Materials ○ Ozobots ○ ozobot-color-codes.pdf ○ Cardstock ○ Markers (black, blue, red, green) ○ crayons

Link to Additional Components including Cross Curricular Connections, Accommodations, Assessments, Etc

ELA Enduring Understanding Statements